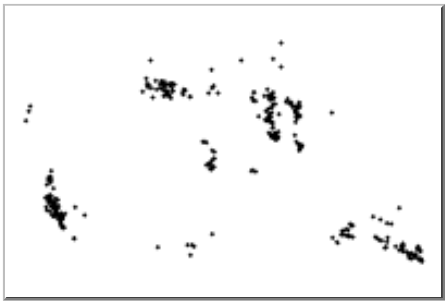
Centroids for Uranium Production on the Navajo Nation



Data format: Shapefile

File or table name: NN_AUM_Production_Pts

Coordinate system: Geographic

Theme keywords: Uranium Production, Vanadium Production, AUM Production, Host Rock, Above vs. Below Ground, Above vs. Below Water Table, Wet vs. Dry Mine, AUM Region, AUM Centroids

Abstract: This is a point dataset that tabulates uranium and vanadium production for Abandoned Uranium Mines (AUMs) on or within one mile of the Navajo Nation. Points are centroids developed from the NN_AUM_Production.shp dataset that comprise a productive or unproductive AUM. Attributes include: total mine production of pounds and percent for uranium (as uranium oxide or U3O8) and vanadium (as vanadium oxide or V2O5), tons of uranium and vanadium ore, the starting and final years of production for uranium and/or vanadium, comments on production, host rock for uranium and/or vanadium proudction, whether an AUM was mined above or below ground, whether an AUM was mined above or below the local water table, and the region in which an AUM is located.

FGDC and ESRI Metadata:

Metadata elements shown with blue text are defined in the Federal Geographic Data Committee's (FGDC) *Content Standard for Digital Geospatial Metadata (CSDGM)*. Elements shown with green text are defined in the *ESRI Profile of the CSDGM*. Elements shown with a green asterisk (*) will be automatically updated by ArcCatalog. ArcCatalog adds hints indicating which FGDC elements are mandatory; these are shown with gray text.

Identification Information:

Citation:

Citation information:

Originators: TerraSpectra Geomatics

Title:
Centroids for Uranium Production on the Navajo Nation

***File or table name:** NN_AUM_Production_Pts

Publication date: July 2007

Geospatial data presentation form: vector and tabular digital data

Publication information:

Publication place: San Franciso, CA

Publisher: US EPA, Region 9, Superfund Program

***Online linkage:** \\Terra_dc\Navajo\NAUM_NN_Summary\Products\FINAL\TSG-07066\DVD_GIS\DB\AUM\NN_AUM_Production_Pts.shp

Description:

Abstract:

This is a point dataset that tabulates uranium and vanadium production for Abandoned Uranium Mines (AUMs) on or within one mile of the Navajo Nation. Points are centroids developed from the NN_AUM_Production.shp dataset that comprise a productive or unproductive AUM. Attributes include: total mine production of pounds and percent for uranium (as uranium oxide or U3O8) and vanadium (as vanadium oxide or V2O5), tons of uranium and vanadium ore, the starting and final years of production for uranium and/or vanadium, comments on production, host rock for uranium and/or vanadium proudction, whether an AUM was mined above or below ground, whether an AUM was mined above or below the local water table, and the region in which an AUM is located.

Purpose:

This dataset was developed to support the U.S. Environmental Protection Agency (USEPA) in its undertaking of an extensive scientific study to determine if abandoned uranium mines (AUM) and related mine features pose a significant risk to human health and the environment, and to identify areas requiring action to reduce risk for the Navajo Nation.

***Language of dataset:** en

Time period of content:

Time period information:

Single date/time:

Calendar date: REQUIRED: The year (and optionally month, or month and day) for which the data set corresponds to the ground.

Currentness reference:

REQUIRED: The basis on which the time period of content information is determined.

Status:

Progress: Complete

Maintenance and update frequency: None planned

Spatial domain:

Bounding coordinates:

***West bounding coordinate:** -111.639811

***East bounding coordinate:** -107.838731

***North bounding coordinate:** 37.409542

***South bounding coordinate:** 35.317281

Local bounding coordinates:

***Left bounding coordinate:** -111.639811

***Right bounding coordinate:** -107.838731

***Top bounding coordinate:** 37.409542

***Bottom bounding coordinate:** 35.317281

Keywords:

Theme:

Theme keywords: Uranium Production, Vanadium Production, AUM Production, Host Rock, Above vs. Below Ground, Above vs. Below Water Table, Wet vs. Dry Mine, AUM Region, AUM Centroids

Theme keyword thesaurus: None

Place:

Place keywords: Navajo Nation, Arizona, New Mexico, Utah, United States
Place keyword thesaurus: None

Access constraints: None.
Use constraints:

This point dataset compiles uranium and vanadium production statistics and makes estimates that separate uranium and vanadium production reported during the 1940s by lease and plot rather than by mine. Comments document minor production of radium in the 1920s. Uranium, vanadium and radium are all compiled because they were produced from the same "carnotite" ores (a general term used here for group of hydrated uranium vanadate minerals). datas are compiled for AUMs on the Navajo Nation and within one mile of its outer boundary. Post-Atomic Energy Commission production data is largely not included for the period after the middle of 1983 for the area of the Grants Uranium District in the Eastern AUM Region. However, production on the Navajo Nation after 1983 had ceased.

Use of this data generally requires computer workstations with ESRI's Arc/Info (8.x or above), ArcGIS (8.x or above), or ArcView (3.x), or some other GIS or CAD software that is capable of reading or converting this dataset.

The data are provided "as-is," without warranty of any kind, either express or implied.

These data have been compiled as part of a desktop project to collect existing spatial data to support the study of Navajo abandoned uranium mines. No field verifications were undertaken as part of this desktop study.

Point of contact:

Contact information:

Contact organization primary:

Contact organization: U. S. Environmental Protection Agency, Region 9, Superfund Program

Contact address:

Address type: mailing and physical address
Address:
75 Hawthorne St (SFD 8-2)
City: San Francisco
State or province: CA
Postal code: 94105
Country: USA

Contact voice telephone: 415-972-3167

Data set credit:

William L Chenoweth, retired Atomic Energy Commission/Department of Energy geologist that worked throughout the Colorado Plateau published most of the reports about uranium/vanadium production on the Navajo Nation, and compiled and provided unpublished data on uranium/vanadium production.

Security information:

Security classification system: None

***Native dataset format:** Shapefile
***Native data set environment:**

Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 2; ESRI ArcCatalog 9.1.0.780

Back to Top

Data Quality Information:

Attribute accuracy:

Attribute accuracy report:

Attributes were compiled from published and unpublished sources. Tabular data were checked agasint these sources and were reviewed by William L Chenoweth.

Logical consistency report:

None

Completeness report:

This point dataset compiles uranium and vanadium production statistics and makes estimates that separate uranium and vanadium production reported during the 1940s by lease and plot rather than by mine. Comments document minor production of radium in the 1920s. Uranium, vanadium and radium are all compiled because they were produced from the same "carnotite" ores (a general term used here for group of hydrated uranium vanadate minerals). Data are compiled for AUMs on the Navajo Nation and within one mile of its outer boundary. Post-Atomic Energy Commission production data is largely not included for the period after the middle of 1983 for the area of the Grants Uranium District in the Eastern AUM Region. However, production on the Navajo Nation after 1983 had ceased.

Positional accuracy:

Horizontal positional accuracy:

Horizontal positional accuracy report:

Positional accuracy is based on the centroid location of polygons for NN_AUM_Production.shp.

Lineage:

Source information:

Source citation abbreviation:

NN_AUM_Production.shp

Source contribution:

Centorids were developed from polygons and the attributes were maintained.

Process step:

Process description:

This dataset was developed from the p[olygons of NN_AUM_Production.shp. The XTools Pro 4.1 extension of esri Arc GIS 9.1 was used to ectract the Centroids maintaining all attributes

Process software and version: ESRI ArcGIS 9.1; DataEast's XTools Pro 4.1

Process date: July 2007

Source used citation abbreviation:

NN_AUM_Production.shp

Source produced citation abbreviation:

NN_AUM_Production_Pts.shp

Process contact:

Contact information:

Contact organization primary:

Contact organization: TerraSpectra Geomatics

Contact address:

Address type: mailing and physical address

Address:

2700 E Sunset Rd, Ste A-10

City: Las Vegas

State or province: NV

Postal code: 89120
Country: USA

Contact voice telephone: 702-795-8254

Back to Top

Spatial Data Organization Information:

*__Direct spatial reference method:__ Vector

Point and vector object information:
SDTS terms description:
*__Name:__ NN_AUM_Production_Pts
*__SDTS point and vector object type:__ Entity point
*__Point and vector object count:__ 520

ESRI terms description:
*__Name:__ NN_AUM_Production_Pts
*__ESRI feature type:__ Simple
*__ESRI feature geometry:__ Point
*__ESRI topology:__ FALSE
*__ESRI feature count:__ 520
*__Spatial index:__ TRUE
*__Linear referencing:__ FALSE

Back to Top

Spatial Reference Information:

Horizontal coordinate system definition:
Coordinate system name:
*__Geographic coordinate system name:__ GCS_North_American_1983

Geographic:
*__Latitude resolution:__ 0.000000
*__Longitude resolution:__ 0.000000
*__Geographic coordinate units:__ Decimal degrees

Geodetic model:
*__Horizontal datum name:__ North American Datum of 1983
*__Ellipsoid name:__ Geodetic Reference System 80
*__Semi-major axis:__ 6378137.000000
*__Denominator of flattening ratio:__ 298.257222

Back to Top

Entity and Attribute Information:

Detailed description:
*__Name:__ NN_AUM_Production_Pts

Entity type:
*__Entity type label:__ NN_AUM_Production_Pts

*Entity type type: Feature Class
*Entity type count: 520
Entity type definition:
Uranium and Vanadium Production

Attribute:
*Attribute label: FID
*Attribute alias: FID
*Attribute definition:
Internal feature number.
*Attribute definition source:
ESRI

*Attribute type: OID
*Attribute width: 4
*Attribute precision: 0
*Attribute scale: 0

Attribute domain values:
*Unrepresentable domain:
Sequential unique whole numbers that are automatically generated.

Attribute:
*Attribute label: Shape
*Attribute alias: Shape
*Attribute definition:
Feature geometry.
*Attribute definition source:
ESRI

*Attribute type: Geometry
*Attribute width: 0
*Attribute precision: 0
*Attribute scale: 0

Attribute domain values:
*Unrepresentable domain:
Coordinates defining the features.

Attribute:
*Attribute label: Mine_ID
*Attribute alias: Mine_ID

*Attribute type: Number
*Attribute width: 4

Attribute:
*Attribute label: AllMineIDs
*Attribute alias: AllMineIDs

*Attribute type: String
*Attribute width: 45

Attribute:
*Attribute label: Mine_Name
*Attribute alias: Mine_Name

*Attribute type: String
*Attribute width: 75

Attribute:
- ***Attribute label:** Aliases
- ***Attribute alias:** Aliases

- ***Attribute type:** String
- ***Attribute width:** 175

Attribute:
- ***Attribute label:** Stratum
- ***Attribute alias:** Stratum

- ***Attribute type:** String
- ***Attribute width:** 35

Attribute:
- ***Attribute label:** PRODUCER
- ***Attribute alias:** PRODUCER

- ***Attribute type:** String
- ***Attribute width:** 5

Attribute:
- ***Attribute label:** TONS
- ***Attribute alias:** TONS

- ***Attribute type:** Number
- ***Attribute width:** 15

Attribute:
- ***Attribute label:** U3O8_LBS
- ***Attribute alias:** U3O8_LBS

- ***Attribute type:** Number
- ***Attribute width:** 15

Attribute:
- ***Attribute label:** U3O8_PRCNT
- ***Attribute alias:** U3O8_PRCNT

- ***Attribute type:** Number
- ***Attribute width:** 14
- ***Attribute number of decimals:** 2

Attribute:
- ***Attribute label:** V2O5_LBS
- ***Attribute alias:** V2O5_LBS

- ***Attribute type:** Number
- ***Attribute width:** 15

Attribute:
- ***Attribute label:** V2O5_PRCNT
- ***Attribute alias:** V2O5_PRCNT

- ***Attribute type:** Number
- ***Attribute width:** 14
- ***Attribute number of decimals:** 2

Attribute:
* **Attribute label:** START_YEAR
* **Attribute alias:** START_YEAR

* **Attribute type:** Number
* **Attribute width:** 5

Attribute:
* **Attribute label:** END_YEAR
* **Attribute alias:** END_YEAR

* **Attribute type:** Number
* **Attribute width:** 5

Attribute:
* **Attribute label:** PROD_SRC
* **Attribute alias:** PROD_SRC

* **Attribute type:** String
* **Attribute width:** 120

Attribute:
* **Attribute label:** COMMENT
* **Attribute alias:** COMMENT

* **Attribute type:** String
* **Attribute width:** 225

Attribute:
* **Attribute label:** HOST_ROCK
* **Attribute alias:** HOST_ROCK

* **Attribute type:** String
* **Attribute width:** 15

Attribute:
* **Attribute label:** HOST_SRC
* **Attribute alias:** HOST_SRC

* **Attribute type:** String
* **Attribute width:** 10

Attribute:
* **Attribute label:** SURF_UNDER
* **Attribute alias:** SURF_UNDER

* **Attribute type:** String
* **Attribute width:** 8

Attribute:
* **Attribute label:** S_U_SRC
* **Attribute alias:** S_U_SRC

* **Attribute type:** String
* **Attribute width:** 25

Attribute:
* **Attribute label:** WTR_TABLE
* **Attribute alias:** WTR_TABLE

*Attribute type: String
*Attribute width: 10

Attribute:
*Attribute label: WTRTBL_SRC
*Attribute alias: WTRTBL_SRC

*Attribute type: String
*Attribute width: 10

Attribute:
*Attribute label: REGION
*Attribute alias: REGION

*Attribute type: String
*Attribute width: 15

Overview description:
Dataset overview:
This dataset is comprised of 520 points representing productive and unproductive AUMs.

Entity and attribute overview:
There are 22 thematic polygons:

• Mine_ID - the single Mine_ID or one of the Mine_IDs that comprises a named producutive mine or an unproductive AUM
• AllMineIDs - listing of all AUM Mine_IDs that comprise a named productive AUM or an unproductive AUM
• Mine_Name - name of productive AUM or unproductive AUM. A few cases are combioned mines where production could not be separated
• Aliases - alternative name(s) of productive mine or unproductive AUM
• Stratum - identifies whether a named productive AUM or unproductive AUM is comprised of a surface or an underground, or a surface and underground AUM polygon (s)
• PRODUCER - identifies with a "Yes" or "No" whether an AUM was productive
• TONS - provides the total AUM production in short tons of ore for uranium and vanadium ores
• U3O8_LBS - provides the total AUM production in pounds of uranium oxide for uranium and vanadium ores
• U3O8_PRCNT - provides the grade in percent of uranium oxide for uranium and vanadium ores, based only on actual production and not on estimated production
• V2O5_LBS - provides the total AUM production in pounds of vanadium oxide for uranium and vanadium ores
• V2O5_PRCNT - provides the grade in percent of vanadium oxide for uranium and vanadium ores, based only on actual production and not on estimated production
• START_YEAR - provides the initial year of production for uranium and vanadium ores
• END_YEAR - provides the final year of production for uranium and vanadium ores, and together with initial year provides the range of years of production including intervening years of non-production
• PROD_SRC - provides the source of information for production for uranium and vanadium ores
• COMMENT - provides comments about production for uranium and vanadium ores, and may include comments on radium production
• HOST_ROCK - host rock from which ore was extracted, including:
Tbm = Tertiary (Pliocene) Middle Member of the Bidahochi Formation
Kd = Cretaceous Dakota Sandstone
Kt = Cretaceous Toreva Fm.
Jmb = Jurassic Brushy Basin Member of the Morrison Fm.

Jmp = Jurassic Poison Canyon Sandstone of the Morrison Fm.
Jmru = Jurassic upper unit of Recapture Member of Morrison Fm.
Jr = Jurassic Recapture Member of the Morrison Fm.
Jmsw = Jurassic Salt Wash Member of Morrison Fm.
Jmsw = Jurassic Salt Wash Member of Morrison Fm.
Jmw = Jurassic Westwater Member of the Morrison Fm.
Jk = Jurassic Kayenta Fm.
Jn = Jurassic Navajo Sandstone
Jt = Jurassic Todilto Limestone
TRcp = Triassic Petrified Forest Member of the Chinle Fm.
TRcs = Triassic Shinarump Member of the Chinle Fm.

• HOST_SRC - source for host rock information
• SURF_UNDER - identifies whether ore was mined at the surface, underground, or surface and undeground; this attribute identifies undergroun mines where maps of the underground working do not exist
• S_U_SRC - source for whether ore was mined at the surface, underground or surface and undeground
• WTR_TABLE - identifies whether ore was mined from "above" (i.e. a dry mine) or "below" (i.e. a wet mine) a local water table
• WTRTBL_SRC - source for whether ore was mined from "above" (i.e. a dry mine) or "below" (i.e. a wet mine) a local water table
• REGION - identifies the AUM Region that the AUM is located to facilitate compilation of production statistics by AUM Region

NOTE "-999" is used as a Null or No Data value.

Back to Top

Distribution Information:

Distributor:

Contact information:

Contact organization primary:

Contact organization: U. S. Environmental Protection Agency, Region 9, Superfund Records Center

Contact address:

Address type: mailing address
Address:
95 Hawthorne St (SFD-7C)
City: San Francisco
State or province: CA
Postal code: 94105
Country: USA

Contact voice telephone: 415-536-2033

Resource description: Downloadable Data

Distribution liability:

Although these data have been processed successfully on a computer system for the USEPA, no warranty expressed or implied is made by the USEPA or its contractors regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. No responsibility is assumed by USEPA or its contractors in the use of these data.

Standard order process:

Digital form:

Digital transfer information:
*__Transfer size:__ 0.014
*__Dataset size:__ 0.014

Custom order process:
Contact the USEPA for a custom order.
Technical prerequisites:
Use of this data generally requires computer workstations with ESRI's Arc/Info (8.x or above), ArcGIS (8.x or above), or ArcView (3.x), or some other GIS or CAD software that is capable of reading or converting this dataset.

Available time period:
Time period information:
Single date/time:

Back to Top

Metadata Reference Information:

*__Metadata date:__ 20070811

*__Language of metadata:__ en

Metadata contact:
Contact information:
Contact person primary:
Contact person: Andrew Bain
Contact organization: U. S. Environmental Protection Agency, Region 9, Superfund Program
Contact position: Project Manager

Contact address:
Address type: mailing and physical address
Address:
75 Hawthorne St (SFD 8-2)
City: San Francisco
State or province: CA
Postal code: 94105
Country: USA

Contact voice telephone: 415-972-3167

*__Metadata standard name:__ FGDC Content Standards for Digital Geospatial Metadata
*__Metadata standard version:__ FGDC-STD-001-1998
*__Metadata time convention:__ local time

Metadata access constraints: None.
Metadata use constraints:
None.

Metadata security information:
Metadata security classification system: None

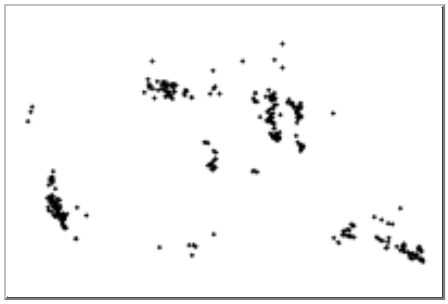
Metadata extensions:
*__Online linkage:__ http://www.esri.com/metadata/esriprof80.html
*__Profile name:__ ESRI Metadata Profile

Back to Top

Binary Enclosures:

Thumbnail:

Enclosure type: Picture



Back to Top